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STANDARD GLASS AND SPECULUM METAL CENTIMETERS.

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Since the last meeting I have ruled two centimeters on speculum metal, subdivided into millimeters, the first millimeter into $\frac{1}{10}$ and the first $\frac{1}{10}$ mm. into $\frac{1}{100}$ mm. These were sent to Prof. William A. Rogers several months since for investigation as to total length.

The five glass centimeters similarly subdivided, which were made the subject of a communication at the last meeting, have been in my possession the last two or three months, but are now in the possession of the treasurer. My experience with glass micrometers has been such as to lead me to delay their investigation till sufficient time has elapsed to ensure their durability.

The lines on the five centimeters above referred to are still in as good condition as when made and bid fair to be permanent. The lines on the Fasoldt centimeter No. 2 (glass), upon which so much time was spent some years since by myself in comparing it with "Centimeter A," have so deteriorated as to make it entirely worthless for micrometric purposes, notwithstanding they are covered, and therefore not exposed to the deteriorating influences operating upon ordinary glass micrometers. Owing to the uncertain life of such scales, it has been thought wise not to bestow so much labor upon the five glass centimeters above referred to till more time has elapsed.

I have, however, in order that they may be available for present use, compared the first $\frac{1}{10}$ mm. of each of said scales with the first $\frac{1}{10}$ mm. of "A" and deduced the following provisional corrections, which are the mean of ten measurements of each space.

The comparisons of which the following are the results were made by means of a Bulloch professional stand No. 2, a Zentmayer filar micrometer, and a Bausch & Lomb one-half opaque illuminator, with daylight received from the right of the instrument:

Scale.	Correction to first $\frac{1}{10}$ mm.	Correction to first $\frac{1}{5}$ mm.
Ewell I	— 0.5 feet	Not determined.
" II	+ 0.0 "	+ 0.4 feet.
" III	— 0.4 "	
" IV	+ 0.2 "	Not determined.
" V	— 0.5 "	" "

The two speculum metal centimeters above referred to, with their investigation as made by Professor Rogers, will subserve the purpose of substandards, and the five glass centimeters can be used by observers for the verification of their glass stage micrometers, so that there need be hereafter no occasion to use "Centimeter A" except as a final standard of reference. I would therefore respectfully recommend that "Centimeter A" be deposited with the superintendent of the United States Coast and Geodetic Survey, and that hereafter the two speculum centimeters be the *working standard* of the society.

Ill health and the pressure of professional engagements have prevented my bestowing the work upon these glass centimeters that I should have been glad to do. During the coming year I will undertake to furnish the society, without any expense to it, with a number of other glass centimeters sufficient, with the five now in hand, to meet any ordinary demand that can be expected from workers desiring to verify their micrometers.

I would further state that during the time that "Centimeter A" has been in my possession it has, when not in actual use, been kept in a safety-deposit vault or strictly fire-proof safe, so that no risk of its loss or damage has been incurred.